

## REMARKS/ARGUMENTS

The Applicants originally submitted Claims 1-21 in the application. Previously, the Applicants amended Claims 1, 5, 7-8, 12, 14-15 and 21. In the present amendment, the Applicants have not added or cancelled any claims, but have amended independent Claims 1, 8 and 15 and provided a substitute application. The substitute application includes the amendments to the Claims and amendments to the specification to remove confusion between the use of charge variation and charge distribution. A clean copy and a copy showing changes of the substitute application have been provided. The substitute application does not add any new matter. Claims 1-21 are pending in the application.

### **I. Rejection of Claims 1-21 under 35 U.S.C. §112**

The Examiner has rejected Claims 1-21 under the first paragraph of 35 U.S.C. §112 for not being enabled. The Applicants respectfully disagree.

The specification defines a charge variation function as a function used to modify a charge distribution function to reach a desired resolution. The first charge variation function,  $f_1$ , is further defined as a difference between a desired potential  $\psi_0$  and a potential  $\psi$ . The desired potential  $\psi_0$  is determined from Equation 9 on page 18, line 12, of the substitute specification. The potential  $\psi$  is computed based upon an initial guess  $g$  of the charge distribution and a representation of a current subdivision. (Page 17, line 21, to page 18, line 9, and Equation 8 on page 17). Equations 8 and 9 show that both the charge distribution function and the charge variation function, respectively, are not directly dependent on a conductive geometry as recited in independent Claims 1, 8 and 15, but instead are projected upon a representative conductive geometry. Thus, the specification does

sufficiently enable the subject matter of independent Claims 1, 8 and 15 for one skilled in the art. Accordingly, the Applicants respectfully request the Examiner withdraw the §112, first paragraph rejection and issue allowance for Claims 1-21.

## **II. Rejection of Claims 1 and 8 under 35 U.S.C. §102**

The Examiner has rejected Claims 1 and 8 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent 6,397,171 to Belk. The Applicants respectfully disagree.

Belk does not teach representing charge distribution for a given capacitive structure by creating a multidimensional charge variation function that is not directly dependent on a conductive geometry of the structure as recited in Claims 1 and 8. Belk instead teaches modeling metalization structures by selecting representative sub-units and using the self and mutual interactions of the sub-units as an initial solution to describe all interactions between similar metalization sub-units in an overall system of metals. (Abstract). The sub-units are a system of structures including straight polygons, bends and intersections which are decomposed from the metalization structure. (Column 6, lines 21). Charge distribution functions on each sub-unit may be decomposed into mathematical functions that capture the differing properties of the components of the charge distributions. (Column 12, lines 31-37). Thus, Belk teaches charge distribution functions that are directly dependent on (decomposed from) a conductive geometry (metalization structure).

Additionally, Belk does not teach representing a charge distribution by projecting a charge variation function on a representative conductive geometry as recited in Claims 1 and 8. Instead, the charge distribution function is decomposed from sub-units of the metalization structure.

(Column 12, lines 31-37). Rather, Belk teaches decomposing charge distribution functions from the metalization structure sub-units.

Belk therefore fails to teach creating a multidimensional charge variation function that is not directly dependent on a conductive geometry of a capacitive structure. Additionally, Belk does not teach representing a charge distribution by a charge variation function projected on a representative conductive geometry. Accordingly, Belk fails to teach each and every element of the claimed invention associated with independent Claims 1 and 8. Hence, the Applicants respectfully request the Examiner to withdraw the §102(e) rejection with respect to Claims 1 and 8.

### **III. Rejection of Claims 2-7 and 9-21 under 35 U.S.C. §103**

The Examiner has rejected Claims 2-7 and 19-21 under 35 U.S.C. §103(a) as being unpatentable over Belk in view of U.S. Patent 6,175,815 to Statzler, a journal article written by K. Nabors (Nabors), U.S. Patent 6,345,235 to Edgecomb, *et al.* (Edgecomb), U.S. Patent 6,351,572 to Dufour or a combination of thereof. The Applicants respectfully disagree.

Regarding independent Claim 15, the Examiner has asserted that Belk and Nabors teach or suggest each and every element thereof. (Examiner's Final Action, page 8). As discussed above with regards to Claims 1 and 8, Belk does not teach creating a multidimensional charge variation function that is independent of a conductive geometry of the capacitive structure nor representing a charge distribution by a charge variation function projected on a representative conductive geometry. Since Claim 15 has claim limitations analogous to those of Claims 1 and 8, Belk also fails to teach the Applicants' claimed invention as recited in Claim 15. Additionally, Belk does not suggest the limitations of Claims 1, 8 and 15, since Belk teaches decomposing a metalization

structure into subunits and decomposing a charge distribution function from the decomposed subunits.

The Examiner cited Nabors not to cure Belk's deficiencies but to show that integral equations are known. (Examiner's Final Action, page 8). Thus, the combination of Belk and Nabors does not teach or suggest each and every element of independent Claim 15 and does not present a *prima facie* case of obviousness thereof.

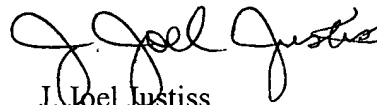
Additionally, the Examiner cited Statzler, Edgecomb and Dufour not to cure Belk and Nabors' deficiencies but to suggest an element of a specific dependent claim. (Examiner's Final Action, pages 6-11). Since Statzler, Edgecomb and Dufour fail to cure the deficiencies of Belk and Nabors, the Examiner cannot establish a *prima facie* case of obviousness of dependent Claims 2-7, 9-14 and 16-21, which include the elements of the respective independent claims. Therefore, the inventions recited in Claims 2-7, 9-14 and 16-21 are not obvious over the combination of Belk in view of Statzler, Nabors, Edgecomb and Dufour. Accordingly, the Applicants respectfully request the Examiner withdraw the 103(a) rejection and allow issuance of Claims 2-7 and 9-21.

#### IV. Conclusion

In view of the substitute application and the foregoing remarks, the Applicants now see all of the Claims currently pending in this application to be in condition for allowance and therefore earnestly solicit a Notice of Allowance for Claims 1-21. The Applicants request the Examiner to telephone the undersigned attorney of record at (972) 480-8800 if such would further or expedite the prosecution of the present application.

Respectfully submitted,

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